CLAIMS

1.   A piece of radio base station apparatus, comprising

5   an interference canceller which has a plurality of sets of a processing unit including:

despreading means in which despreading signals for each channel are obtained by despreading, with a spreading code, of signals of a plurality of channels, spreading

10   modulation of which is performed with said spreading code at the side of a communication terminal;

likelihood calculation means for calculation of the likelihoods of symbols, which are obtained by use of said despreading signals, for each channel;

15   ranking means for ranking according to the likelihoods of each symbol; and

replica signal generation means for generation of replica signals according to said ranking results, and

subtraction means for cancellation of replica

20   signals generated in said processing unit from input signals into said processing unit, wherein

replica signals for a plurality of symbols are generated and canceled from the input signals at the same time by said processing unit and said subtraction section.

25   2.   A piece of radio base station apparatus, comprising an interference canceller which is provided with a plurality of subsets including:

despreading means in which despreading signals for each channel are obtained by despreading, with a spreading code, of signals of a plurality of channels, spreading modulation of which is performed with said spreading code

5   at the side of a communication terminal;

likelihood calculation means for calculation of the likelihoods for symbols, which are obtained by use of said despreading signals, for each channel;

ranking means for ranking according to the

10   likelihoods of each symbol; and

replica signal generation means for generation of replica signals according to said ranking results, wherein

each subset, independently from each other,

15   performs said ranking processing and said generation of replica signals.

3.   A piece of radio base station apparatus according to claim 2, comprising

channel allocation control means for control of

20   allocation of channels based on information reported from each subset so that the relations between the ranking order and likelihood are almost uniform among subsets.

4.   A piece of radio base station apparatus, comprising:

25   an interference canceller which is provided with a plurality of subsets including:

despreading means in which despreading signals for

each channel are obtained by despreading, with a spreading code, of signals of a plurality of channels, spreading modulation of which is performed with said spreading code at the side of a communication terminal;

5   likelihood calculation means for calculation of the likelihoods for symbols, which are obtained by use of said despreading signals, for each channel;

class decision means for decision of the presence of replica signals by comparison between the likelihoods

10   of each symbol and a threshold value;

replica signal generation means for generation of replica signals according to said class decision results,

wherein each subset, independently from each other, performs said class decision processing and said

15   generation of replica signals.

5.   A piece of radio base station apparatus according to claim 4, comprising:

threshold control means for control of threshold values based on information on the current slot or

20   information on slots just before the current slot.

6.   A piece of communication terminal apparatus performing radio communication with a piece of radio base station apparatus, wherein said radio base station apparatus comprises

25   an interference canceller which has a plurality of sets of

a processing unit including:

despreading means in which despreading signals for each channel are obtained by despreading, with a spreading code, of signals of a plurality of channels, spreading modulation of which is performed with said spreading code

5   at the side of a communication terminal;

likelihood calculation means for calculation of the likelihoods of symbols, which are obtained by use of said despreading signals, for each channel;

ranking means for ranking according to the

10   likelihoods of each symbol; and

replica signal generation means for generation of replica signals according to said ranking results, and

subtraction means for cancellation of replica signals generated in said processing unit from input

15   signals into said processing unit, and

replica signals for a plurality of symbols are generated and canceled from the input signals at the same time by said processing unit and said subtraction section.

7.   A radio communication method comprising the

20   steps of:

despreading signals for each channel are obtained by despreading, with a spreading code, of signals of a plurality of channels, spreading modulation of which is performed with said spreading code at the side of the

25   communication terminal;

calculating the likelihoods of symbols, which are obtained by use of said despreading signals, for each

channel;

ranking according to the likelihoods of each symbol; and

generating replica signals according to said ranking results, is performed every subset to which a plurality of channels are allotted, wherein

each subset, independently from each other, performs said ranking processing and said generation of replica signals.

10 8. A radio communication method comprising the steps of:

despreading signals for each channel are obtained by despreading, with a spreading code, of signals of a plurality of channels, spreading modulation of which is performed with said spreading code at the side of a communication terminal;

calculating the likelihoods of symbols, which are obtained by use of said despreading signals, for each channel;

20 deciding the presence of generated replica signals by comparison between the likelihoods of each symbol and a threshold value; and

generating replica signals according to said class decision results, is performed every subset to which a plurality of channels are allotted, wherein

each subset, independently from each other, performs said class decision processing and said

generation of replica signals.